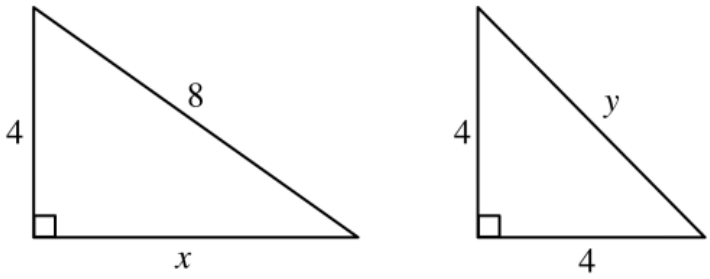
GRE practice paper
Quantitative Reasoning

Directions: For each question, indicate the best answer using the directions given.
Notes: All numbers used are real numbers.
All figures are assumed to lie in a plane unless otherwise indicated.

Geometric figures, such as circles, triangles, and quadrilaterals, **are not necessarily** drawn to scale. That is, you should **not** assume that quantities such as lengths and angle measures are as they appear in a figure. You should assume, however, that lines shown as straight are actually straight, points on a line are in the order shown, and more generally, all geometric objects are in the relative positions shown. For questions with geometric figures, you should base your answers on geometric reasoning, not on estimating or comparing quantities from how they are drawn in the geometric figure.
Coordinate systems, such as xy-planes and number lines, **are** drawn to scale; therefore, you can read, estimate, or compare quantities in such figures from how they are drawn in the coordinate system.
Graphical data presentations, such as bar graphs, circle graphs, and line graphs, **are** drawn to scale; therefore, you can read, estimate, or compare data values from how they are drawn in the graphical data presentation.



	Quantity A	Quantity B
1.	x	y

A) Quantity A is greater.
B) Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given.

2. (x-2y)(x+2y)= 4

Quantity A	Quantity B
x^2 - 4y^2	8

A) Quantity A is greater.
B) Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given.

3. A certain recipe requires 3 2 cups of sugar and makes 2 dozen cookies. (1 dozen = 12)

Quantity A	Quantity B
The amount of sugar required for the same recipe to make 30 cookies	2 cups

A)Quantity A is greater.
B) Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given.

4. A power station is located on the boundary of a square region that measures 10 miles on each side. Three substations are located inside the square region.

Quantity A	Quantity B
The sum of the distances from the power station to each of the substations	30 miles

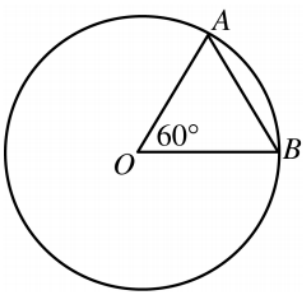
A)Quantity A is greater.
B) Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given.

$$6 < x < 7$$
$$y = 8$$

Quantity A	Quantity B
$\frac{x}{y}$	0.85

5.

A)Quantity A is greater.
B) Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given.



O is the center of the circle and the perimeter of $\triangle AOB$ is 6.

Quantity A	Quantity B
The circumference of the circle	12

6.

A)Quantity A is greater.
B) Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given.

Quantity A	Quantity B
The standard deviation of a set of 5 different integers, each of which is between 0 and 10	The standard deviation of a set of 5 different integers, each of which is between 10 and 20

7.

A)Quantity A is greater.
B) Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given

$x > 1$

Quantity A	Quantity B
$x\left(x^2\right)^4$	$\left(x^3\right)^3$

8.

A)Quantity A is greater.
B)Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given.

9. x not equal to 0

Quantity A	Quantity B
| x |+ |-2|	|x - 2|

A) Quantity A is greater.
B) Quantity B is greater.
C) The two quantities are equal.
D) The relationship cannot be determined from the information given.

This question has five answer choices.
Select the best one of the answer choices given.
10.

$7x + 3y = 12$
$3x + 7y = 6$

If x and y satisfy the system of equations shown, what is the value of x - y?
A)2 /3

B) 3/ 2
C) 1
D) 4
E) 6

11. In triangle ABC, the measure of angle A is 25° and the measure of angle B is greater than 90°. Which of the following could be the measure of angle C ? Indicate all possible values.
A)12°
B) 15°
C) 45°
D) 50°
E) 70°

12. What is the least integer n such that 2n <1 0.001 ?
A) 10
B) 11
C) 500
D) 501
E) There is no such least value.

13. In the sunshine, an upright pole 12 feet tall is casting a shadow 8 feet long. At the same time, a nearby upright pole is casting a shadow 10 feet long. If the lengths of the shadows are proportional to the heights of the poles, what is the height, in feet, of the taller pole?
A) 10
B) 12
C) 14
D) 15
E) 18

14. If a is the smallest prime number greater than 21 and b is the largest prime number less than 16, then ab = ?
A) 299
B) 323
C) 330
D) 345
E) 351

15. The total amount of Judy's water bill for the last quarter of the year was $40.50. The bill consisted of a fixed charge of $13.50 plus a charge of $0.0075 per gallon for the water used in the quarter. For how many gallons of water was Judy charged for the quarter?

								gallons
–	.	.	.	.	.	.	.	
	0	0	0	0	0	0	0	
	1	1	1	1	1	1	1	
	2	2	2	2	2	2	2	
	3	3	3	3	3	3	3	
	4	4	4	4	4	4	4	
	5	5	5	5	5	5	5	
	6	6	6	6	6	6	6	
	7	7	7	7	7	7	7	
	8	8	8	8	8	8	8	
	9	9	9	9	9	9	9	

16. The median of the numbers in list R is how much greater than the median of the numbers in list S ?

A) 8
B) 10
C) 12
D) 13
E) 15

17. If c and d are positive integers and m is the greatest common factor of c and d, then m must be the greatest common factor of c and which of the following integers?

A) c+ d
B) 2 + d
C) cd
D)2d
E) 2 d

18. Of the 750 participants in a professional meeting, 450 are females and 1/2 of the female and 1/4 of the male participants are less than thirty years old. If one of the participants will be randomly selected to receive a book prize, what is the probability that the person selected will be less than thirty years old?

A)1/8
B) 1/ 3

C) 3 /8
D) 2/ 5
E) 3/ 4

19. In the xy-plane, what is the slope of the line whose equation is 3x- 2y= 8?
A) -4
B)- 8/3
C) 2/3
D) 3/2
E) 2

20. If a group of students having an average age of 16 years joined a class, the average age of all the students in the class reduces from 18 years to 17 years. What is the ratio of the number of students who joined the class to the number of students who were initially in the class?

21. If $(a-3)2+|b-3| =0$, (a-3)2+|b-3|=0, what is the value of a−b?

22. What is one possible solution to the following equation:

$$\frac{x+1}{x} - \frac{3}{2x^2} = -\frac{5}{2x}$$

A -1

B 0

C $\frac{-7+\sqrt{73}}{4}$

D $\frac{-7-\sqrt{25}}{4}$

E −½

23.
Question 1
If 4x + 3x − 2(x + 5) = −9, then x = ?

A −1/2

B 0

C 1/5

D 2/3

E 4/5

Question 24
If the ratio of milk cartons to juice boxes is 13:x and there are 39 milk cartons and 18 juice boxes, what is the value of x?

A 4

B 6

C 8

D 10

E 12

Question 25
A triangle, RST, is reflected across the y-axis to form the triangle R'S'T' in the standard (x,y) coordinate plane; thus, R reflects to R'. The coordinates of point T are (j,k). What are the coordinates of point T'?

A (−j, k)

B (j, −k)

C (−j, −k)

D (k, j)

E It cannot be determined.

Question 26
How many of the numbers between 20 and 40 are prime numbers?

A 3

B 4

C 5

D 6

E 7

Question 27
If a = −1 and b = 4, what is the difference between a3b + 3b and a3b + 3b0?

A −11

B −3

C 2

D 4

E 9

Question 28
What is the least common multiple (LCM) of 3, 8, and 10?

A 40

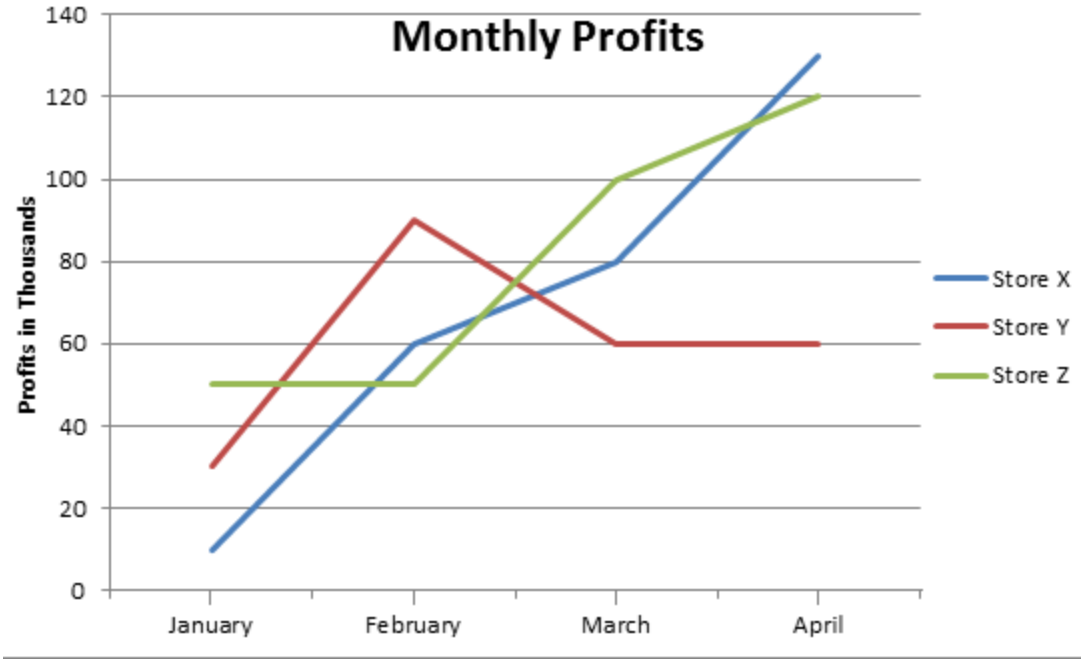
B 80

C 120

D 140

E 240

Question 29



The chart above shows the monthly profits of 3 companies. What is the total profit generated by Store X and Store Z in the month of March?

A 20,000

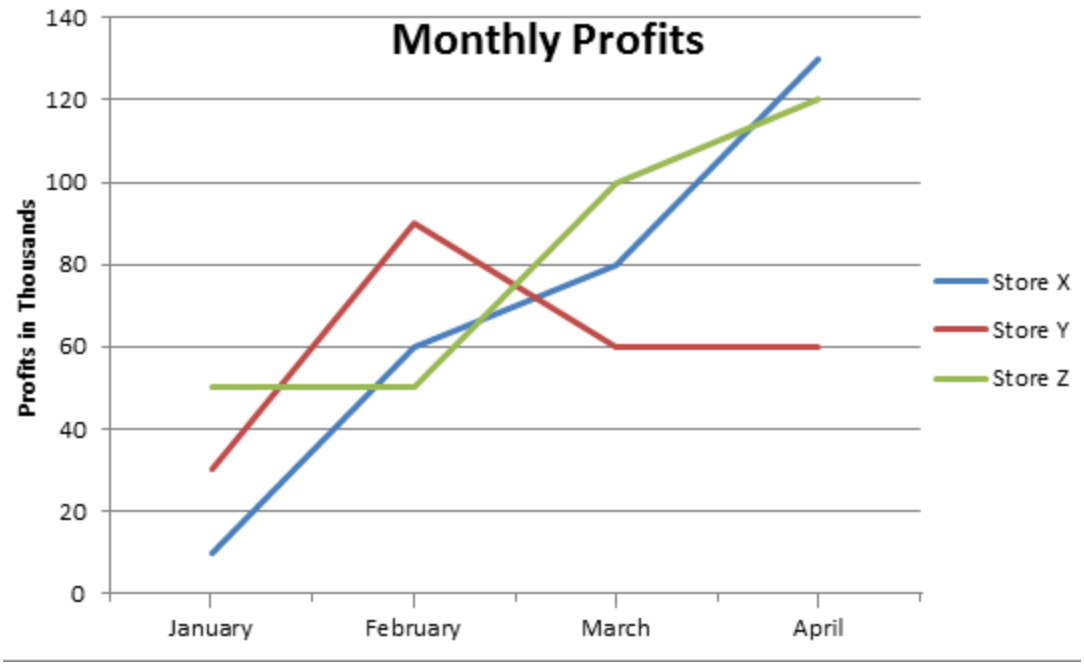
B 80,000

C 140,000

D 180,000

E 200,000

Question 30



The chart provided shows the monthly profits of 3 stores. What was the percent increase in Store Y's profits over the course of the 4 months?

A 25%

B 33%

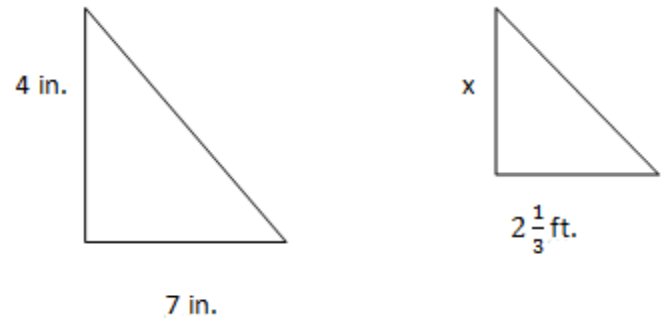
C 50%

D 75%

E 100%

Question 31

In order for the two triangles shown to be similar, what is one possible value for x?



A 8 in.

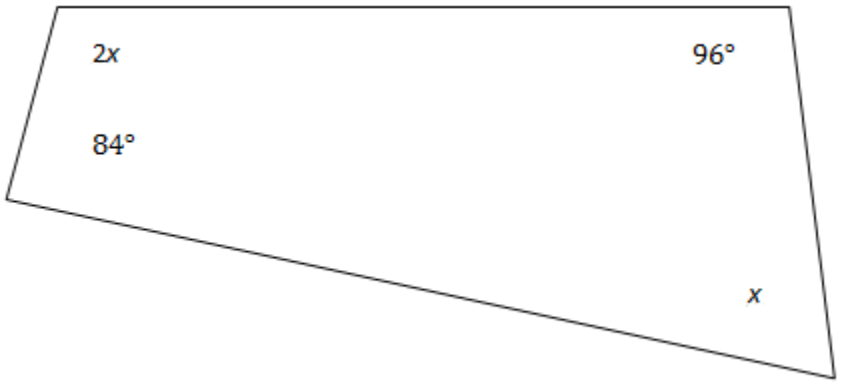
B 10 in.

C 16 in.

D 20 in.

E 24 in.

Question 32
In quadrilateral WXYZ, what is the degree measurement of x?



A 60°

B 75°

C 80°

D 90°

E 120°

33. The revenue generated by Company X is divided between Doug and Moira in a 6 to 5 ratio respectively.

Column A	Column B

Moira’s share when the revenue generated by Company X is $15,700	$7,900

A) The quantity in Column A is greater
B) The quantity in Column B is greater
C) The two quantities are equal
D) The relationship cannot be determined from the information given

34. ANIMAL DISTRIBUTION IN THE ZOO

ANIMAL	PERCENT
Lions	32%
Leopards	16%
Ocelots	20%
Tigers	8%
Bobcats	24%

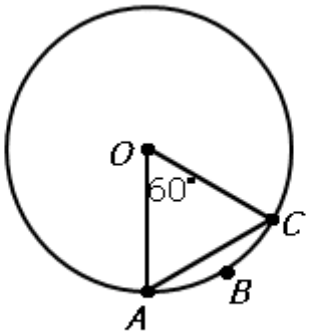
If there are 44 leopards at the zoo, what is the zoo’s total animal population?
A) 225
B) 275
C)325
D)350
E)375

35.
The revenue generated by Company X is divided between Doug and Moira in a 6 to 5 ratio respectively.

Column A	Column B
Moira’s share when the revenue generated by Company X is $15,700	$7,900

A. The quantity in Column A is greater
B.The quantity in Column B is greater
C.The two quantities are equal
D. The relationship cannot be determined from the information given

36.



O is the center of the circle with radius 6.

Column A	Column B
Length of arc ABC	6

A. The quantity in Column A is greater
B.The quantity in Column B is greater
C.The two quantities are equal
D.The relationship cannot be determined from the information given

37.

- The greatest prime factor of 144 is x
- The greatest prime factor of 96 is y

Column A	Column B

x	y

A)The quantity in Column A is greater
B)The quantity in Column B is greater
C)The two quantities are equal
D)The relationship cannot be determined from the information given

38.
The price of a pair of sneakers was $80 for the last six months of last year. On January first, the price increased 20%. After the price increase, an employee bought these sneakers with a 10% employee discount. What price did the employee pay?
$70.40
$82.00
$83.33
$86.40
$88.00

39. In how many different ways can 3 identical green shirts and 3 identical red shirts be distributed among 6 children such that each child receives a shirt?

A)20 B) 40 C)216 D)720 E)729

40. Dharik lives in a house on a straight street. For years, there have been 16 houses on his street to the right of his house and 17 houses on his street to the left of his house. Last year, 5 new houses were built on the same street even further to the left of those houses to the left of Dharik's house. If these are the only houses on this street, how many houses are on this street?